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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/788,421

03/01/2004

John Gaughan

044499-0197

4963

22428

7590

04/12/2005

FOLEY AND LARDNER

SUITE 500

3000 K STREET NW

WASHINGTON, DC 20007

EXAMINER

LEJA, RONALD W

ART UNIT

PAPER NUMBER

2836

DATE MAILED: 04/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b> 10/788,421	<b>Applicant(s)</b> GAUGHAN, JOHN	
	<b>Examiner</b> Ronald W. Leja	<b>Art Unit</b> 2836	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 03 February 2005.  
 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.  
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
 6) ☒ Claim(s) 1-10 is/are rejected.  
 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
 10) ☒ The drawing(s) filed on 01 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \* c) ☐ None of:  
         1. ☐ Certified copies of the priority documents have been received.  
         2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
         3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
     \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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Claim 5 is objected to because of the following informalities:

The language "diode circuited with" in Claim 5 is awkward.

Appropriate correction is required.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6 and 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schultz (4,029,991) in view of "Another Darlington Pair Speed Control" by Howard Lloyd, 6/8/2002 (here-in-after referred to as Lloyd).

Schultz discloses the use of a Darlington pair of transistors (28) connected between an input (14) and an output at (30) for both regulation and surge suppression. See Col. 2, lines 53-55. Schultz further discloses (for Claims 2, 5, 6 & 10) the use of a resistance (34, 38) being connected between an input terminal of the first transistor and the base of the second transistor and a zener diode (36) connected between the base of the second transistor and ground. The resistance and zener provide a voltage divider for setting a voltage (when transistor (40) is not conducting) for the base of the second transistor. Diode (26) (for Claim 5) prevents damage to the control circuitry from negative voltages. Schultz does not appear to

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disclose the use of a "complementary Darlington pair". In spite-of-the-fact, Lloyd teaches the use of a complementary Darlington pair, wherein the first transistor is a PNP transistor and the second transistor is a NPN transistor (for Claims 3 & 9). It would have been obvious to replace the Darlington pair of Schultz with the Darlington pair of Lloyd so as to take advantage of the reduced voltage drop across the "complementary Darlington Pair", thereby increasing efficiency. The same amount of current amplification can be achieved with one less Vbe drop.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schultz in view of Lloyd as applied to Claims 1 and 2 and further in view of Anderson (6,442,008).

Claim 7 adds the use of a capacitor between the ground and the base of the second transistor. Schultz does not disclose such a capacitor. However, Anderson teaches use of a Darlington pair of transistors for use in surge suppression and wherein capacitor (36), in Figure 1, is connected between the base of the second transistor and ground for charging-up and turning OFF the transistors during normal operation, i.e. not shunting transients. Therefore, it would have been obvious to utilize the capacitor in conjunction with the second transistor as a means to ensure that when the circuit was OFF, that no leakage current flowed through the Darlington Pair, and thus, leading to increased power conservation and less unnecessary heat build-up.

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Applicant's arguments filed 2/3/2005 have been fully considered but they are not persuasive. First of all, Claim 1 has been amended to require merely "a circuit comprising" wherein the comprising is a surge suppression circuit. This amendment allows for interpretation of any circuit that has a surge suppression circuit with a complementary Darlington pair. The application of Schultz therefore becomes more relevant, since it teaches a circuit having a Darlington pair utilized in surge suppression. On Page 4, of Applicant's Response, Applicant essentially proffers that Schultz would not viably benefit from increased efficiency via a reduced  $V_{be}$  drop by use of Lloyd's Complementary Darlington Pair and that current "amplification" has no relevance to surge suppression and might suggest the reverse of having the amplification. It is the Examiner's position, that the Darlington Pair of Schultz is not there purely for surge suppression, but for control and regulation. It is desirable in any engineering design to have increased efficiency from a power-savings point of position and one would look to any circuit for ways to improve upon such efficiency. Lloyd teaches such an increase in efficiency with the use of a Complementary Darlington Pair. Whether Lloyd teaches surge suppression is of no moment, since Lloyd was not relied upon for surge suppression teachings, but rather that use of a Complementary Darlington Pair increases efficiency by offering the same amount of current amplification with one less voltage  $V_{be}$  drop. As to Applicant's speculation that application of Lloyd to Schultz would risk possible damage is exactly that, speculation with no probative

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value. The Examiner is not suggesting bodily incorporation of the Lloyd circuit into the circuitry of Schultz, but rather that one having ordinary skill in the art, at the time of the invention, would have recognized the benefits of the Complementary Darlington Pair as taught by Lloyd and would have applied such teachings so as to conserve power by eliminating a  $V_{be}$  voltage drop while controlling and regulating the LED load in the circuitry of Schultz, resulting in increased efficiency. Applicant is reminded that motivation does not have to be expressly taught in any one Reference, but it is rather what the References combined would have fairly suggested to one having ordinary skill in the art at the time of the invention, that makes the case for obviousness; motivation can even be suggested by the Examiner.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ronald W. Leja whose telephone number is (571)272-2053. The examiner can normally be reached on Monday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on (571)272-2800. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Ronald W. Leja  
Primary Examiner  
Art Unit 2836

rw1  
April 7, 2005

